FACT SHEET

THE MEMPHIS DEPOT ENVIRONMENTAL RESTORATION PROGRAM
THE DEPOT
RESTORE, REUSE, REVITALIZE

This is one in a series of Fact Sheets on the remedies selected in the Records of Decision (ROD) for the Main Installation (2001) and Dunn Field (2004).

ENHANCED BIOREMEDIATION

The selected remedy for groundwater at the Main Installation (MI) of the former Memphis Depot includes Enhanced Bioremediation at specific treatment areas, monitored natural attenuation outside the treatment areas, and land use controls to prevent use of the shallow aquifer beneath the MI. The Environmental Protection Agency (EPA) approved the Final Remedial Design for the MI in August 2004.

This Fact Sheet discusses Enhanced Bioremediation, which is being used to treat groundwater containing solvents in the shallow aquifer beneath the MI. Scientists have discovered there are naturally occurring organisms present in the environment that can help to break down chlorinated solvents in groundwater, and turn them into safe, natural compounds. This process is known as bioremediation.

Enhanced bioremediation involves injecting naturally occurring nutrients into the groundwater as an additional food source for these tiny organisms. This speeds up the natural chemical reduction process by encouraging the growth and development of more organisms. Enhanced Bioremediation treatment technology (EBT) has been used successfully at hundreds of cleanup sites across the country.

During a year-long pilot study completed in 2003, the Depot's environmental team set up two test sites where organic nutrients were injected into the groundwater. Vegetable oil was used at one site and sodium lactate was used at the other to compare the effectiveness of the substances. The results of the study showed that multiple injections of sodium lactate will be the most effective solution for treating solvents in the shallow aquifer beneath the Main Installation (MI).

EBT will be used in two areas of the MI where concentrations of solvents are the highest. In the southwest corner of the MI, 16 injection wells will be used to introduce sodium lactate into the groundwater. In the southeast corner, nine injection wells will be used. Injections will occur bi-weekly during the first year of treatment and then reduce to a monthly schedule until the cleanup goals are reached.

More information can be found in the EPA's *A Citizen's Guide to Bioremediation*, located online at: http://www.epa.gov/swertio1/download/citizens/bioremediation.pdf.

The Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC) will review the effectiveness of this remedy at five-year intervals to ensure the site continues to be safe for community reuse.

For more information on the cleanup remedies being used at the former Memphis Depot, call our Community Relations Office at (901) 774-3683. The RODs and the final RDs for the Main Installation and Dunn Field Disposal Sites are available for reference in the Depot's Information Repositories located at the Depot and the Cherokee Branch Library.